

SOLDERING IRON TORCH KIT

Model 94903

SET UP AND OPERATING INSTRUCTIONS



Diagrams within this manual may not be drawn proportionally.

Due to continuing improvements, actual product may differ slightly from the product described herein.

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**Read this material before using this product.
Failure to do so can result in serious injury.
SAVE THIS MANUAL.**

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For technical questions or replacement parts, please call 1-800-444-3353.

SPECIFICATIONS

Fuel Required	Butane	Torch Diameter	0.540" O.D. / 0.066" I.D.
Blade Temperature	500° F	Igniter	Piezo

This kit includes 5 soldering tips: Hot Knife, Pointed Tip, Slant Cut Tip, Cut Pointed Tip and Rounded Tip.

Save This Manual

You will need the manual for the safety warnings and precautions, assembly instructions, operating and maintenance procedures, parts list and diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep the manual and invoice in a safe and dry place for future reference.

SAFETY WARNINGS AND PRECAUTIONS

WARNING: When using tool, basic safety precautions should always be followed to reduce the risk of personal injury and damage to equipment.

Read all instructions before using this tool!

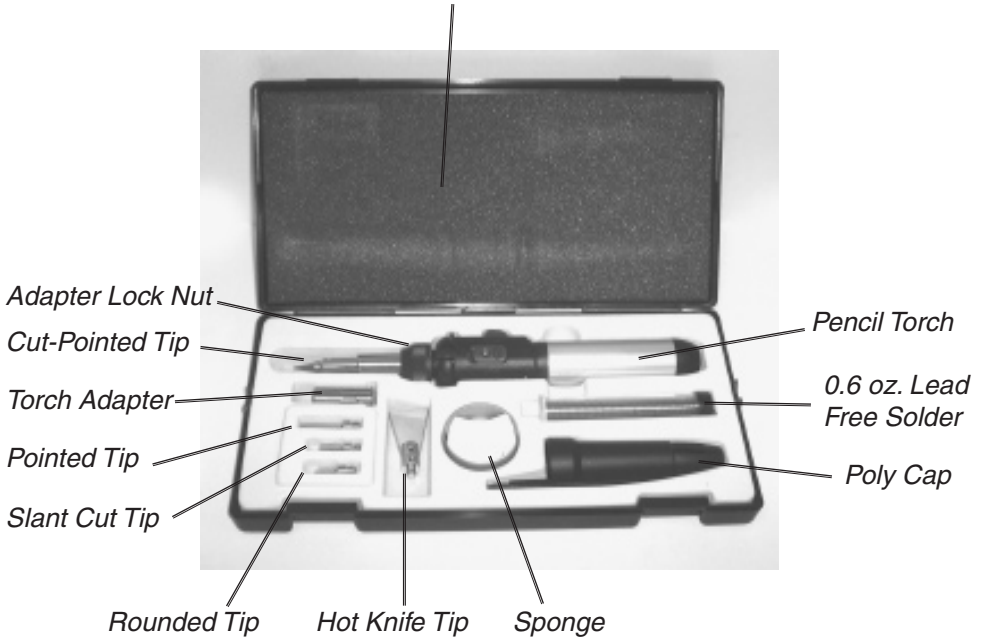
1. **ONLY USE BUTANE FUEL. NEVER USE ANY OTHER FUEL IN THIS TOOL.**
2. **Keep work area clean.** Cluttered areas invite injuries.
3. **Observe work area conditions.** Do not use machines or power tools in damp or wet locations. Don't expose to rain. Keep work area well lit. Do not use in the presence of flammable gases or liquids.
4. **Keep children away.** Children must never be allowed in the work area. Do not let them handle machines, tools, or extension cords. Children should never be allowed to use this tool.
5. **Store idle equipment.** When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep out of reach of children.
6. **Use the right tool for the job.** Do not attempt to force a small tool or attachment to do the work of a larger industrial tool. There are certain applications for which this tool was designed. It will do the job better and more safely at the rate for which it was intended. Do not modify this tool and do not use this tool for a purpose for which it was not intended.
7. **Dress properly.** Do not wear flammable clothes. Do not wear loose or baggy clothes. Protective, electrically non-conductive clothes and non-skid footwear are recommended when working. Wear restrictive hair covering to contain long hair. Heavy gloves should be worn to prevent burns.
8. **Use eye and ear protection.** Always wear ANSI-approved impact safety goggles. Wear a full face shield since solder and other materials can splatter. Wear an ANSI approved dust mask or respirator when working around metal, wood, and chemical dusts and mists.

9. **Do not overreach.** Keep proper footing and balance at all times. Do not reach over or across running machines.
10. **Maintain tools with care.** Keep tools maintained and clean for better and safer performance. The handles must be kept clean, dry, and free from oil and grease at all times.
11. **Avoid unintentional starting.** Be sure the switch is in the Off position when not in use. Do not carry any tool with your finger on the start switch.
12. **Stay alert.** Watch what you are doing, use common sense. Do not operate any tool when you are tired.
13. **Take caution as some woods contain preservatives such as copper chromium arsenate (CCA) which can be toxic.** Some metals and other materials can be toxic when burned. When cutting or burning these materials extra care should be taken to avoid inhalation and minimize skin contact.
14. **Check for damaged parts.** Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician. Do not use the tool if any switch does not turn On and Off properly.
15. **Guard against burns.** This tool and your work materials will become very hot when in use. Prevent body contact with hot surfaces by using safety equipment such as gloves. Provide for cooling trays for tools and work materials.
16. **Replacement parts and accessories.** When servicing, use only accessories intended for this tool.
17. **Do not operate tool if under the influence of alcohol or drugs.** Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.
18. **Maintenance.** For your safety, service and maintenance should be performed regularly by a qualified technician.
19. **The brass components of this product contain lead, a chemical known to the State of California to cause birth defects (or other reproductive harm). (California Health & Safety code 25249.5, et seq.)**
20. **WARNING: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.**

UNPACKING

When unpacking, check to make sure that all accessories listed below are included, and that the product is intact and undamaged. If any parts are missing or broken, please call Harbor Freight Tools at: 1-800-444-3353.

Storage Case



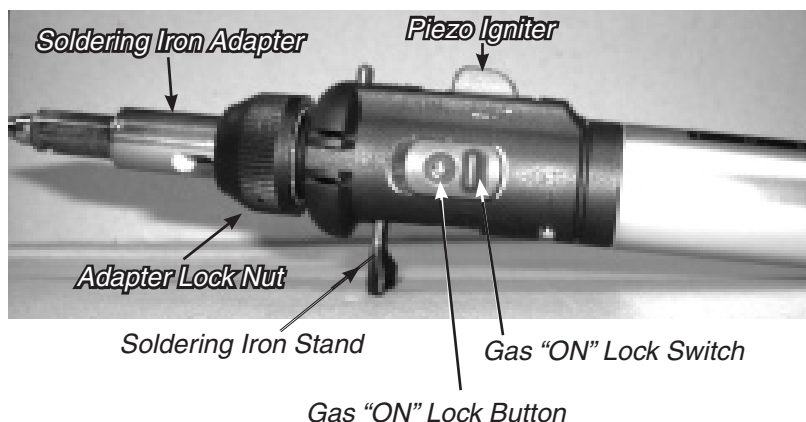
Note: No replacement parts are available for this tool. However, Harbor Freight Tools offers a broad selection of solder, soldering tips, holding devices, etc. which may be used with this tool.

OPERATION

Igniting and Extinguishing The Torch:

1. To ignite the torch push the Gas “On/Off” Switch forward towards the tip until the Gas “On” Lock button pops out. This will lock the Gas “On/Off” switch in the “On” position.
2. Next push the “Piezo Igniter” button forward repeatedly until the torch is lit.
3. To turn off the torch, push the Gas “On” Lock button. By doing this the Gas “On/Off” switch will slide to the off position and extinguish the flame. If the flame continues to burn, press the “Flame Off Button”.
4. Allow the tool to cool down before setting it down. Only set the tool down after the stand has been opened. See page 7 for instructions regarding this.

WARNING: Never leave the tool unattended while in operation or while hot. Serious personal injury and risk of fire may result.



Setting up the Soldering Iron:

1. The Torch comes with the “Soldering Iron Adapter” already installed. It is the longer of the two adapters and has a threaded end that receives the soldering tips.
2. If you do need to install “Soldering Iron Adapter”, first remove the “Adapter Lock Nut” then slide the “Soldering Iron Adapter” over the ceramic insulator, then thread on the “Adapter Lock Nut”.
3. Pick the desired tip from the kit and screw it onto the end of the “Soldering Iron Adapter”.

Flame Adjustment:

To adjust the flame, move the “Flame Adjustment Lever”, located under the torch, toward the “+” to increase the flame or toward the “-” to reduce the flame. See the photo below.

Continuous Flame:

1. To keep the flame locked on, push in the Gas “ON” Lock Button during ignition to activate the Continuous Flame Mechanism.
2. To turn OFF the flame, push the Continuous Flame Switch forward. The Lock Button will pop out. Press the Flame OFF button.

Using The Torch as A Hot Blower:

1. To use the tool as a Hot Blower first remove the soldering tip and sleeve assembly by rotating them counterclockwise. With no soldering tip attached, the tool can be used as a Hot Blower.
2. Operate the tool as discussed on page 5, “Igniting and extinguishing the Torch”. Hot air, but no flame will be blown from the tip of the tool. The picture below shows what the tool should look like when you use it as a Hot Blower.



WARNING: The hot air blowing from the tip of the tool will not be visible as flame, but can cause severe burns. Be extremely cautious; do not cause injury to yourself or others and do not point the blower at any person, animal or flammable object.

Using The Pencil Torch Feature:

1. To use the pencil torch feature first remove the “ Adapter Lock Nut” and the “Soldering Iron Adapter”. See page 5.
2. Next install the “Torch Adapter” by sliding it over the ceramic insulator. Then reinstall the “Adapter nut”.

Using The Soldering Iron Stand:



Soldering Iron Stand

The torch comes with a stand that can be pulled out to allow you to rest it on a flat surface. See photo below.

MAINTENANCE

Refilling the Butane Canister:

WARNING: Do not use any other fuel other than butane which is specifically designed for this type of torch. Use of any other fuel may result in severe personal injury.

1. Be sure the tool is turned off and is cool.
2. Hold the tool in an upside down position, with the end of the handle facing up.
3. Insert and press down the filling tip of the butane canister.
4. Stop refilling once the butane starts to overflow.
5. Allow the refilled tool to stabilize for a few minutes before resuming work.

Cleaning and Storing

1. The tip should be cleaned periodically during use with a damp sponge.
2. After use, allow the torch and all accessories to cool down to room temperature before maintenance.
3. Wipe the tool down with a damp cloth to remove any grease, flux or dirt.
4. Be sure the Gas "ON/OFF" Switch Lock Button is in the OFF position.
5. Store the tool and its accessories in the Storage Case provided.

SOLDERING HINTS

The soldering process bonds two metal objects together using a metallic bonding material (solder) which has a lower melting point than the items being joined. Soldering is not appropriate for non-metallic objects such as plastic or wood.

1. Check to be sure the objects being joined will not be damaged by the heat of soldering. This tool generates a temperature of 500° F. Test a scrap piece or inconspicuous area of your work piece with the soldering torch before proceeding.
2. Be sure the surfaces being soldered are clean before beginning. If necessary, use a soldering flux (not included) for cleaning. Apply the flux to the parts being joined, and heat the parts until the flux burns away.
3. Heat the parts being joined with the soldering tool, not the solder. Once the parts being joined are sufficiently heated, touch the solder to the workpieces. The solder will melt and adhere to the workpieces. Remove the soldering tip from the workpieces, and hold the pieces together until they have cooled enough for the solder to solidify.
4. Solder will “follow the heat”. Once a workpiece is sufficiently hot to melt the solder, the solder can be dragged along the workpiece by moving the soldering tip. The solder will follow the heat. This technique is helpful when soldering joints, such as a tube in a coupling. By applying solder to the edge of the coupling and then moving the soldering tip away from the edge, solder can be dragged into a concealed joint as it follows the heat.
5. **LEAD WARNING:** Some solders contain lead and some do not. The solder supplied with this kit does not contain lead. Be extremely careful not to breathe vapors from any solder, especially ones containing lead. Lead is a heavy metal which can accumulate in the body and may cause serious health problems.
6. Solder is available in various types. Some solders have a flux core and some do not. Flux core solders contain flux and reduce the need to clean the workpieces before joining. Solid core solders do not contain flux, and require careful cleaning of the work material, and application of flux for additional cleaning.
7. Solder is available in various melting points. The heat range of solder may be expressed in temperature, or may be expressed as “easy,” “medium” or “hard”. When making several solder joints on a single workpiece, you may use a mix of solder temperatures. Easy solder will melt before medium, and hard will melt last. This can allow you to sequentially assemble or disassemble various parts of an item, such as jewelry.